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**They Came for the Carbs, and Stayed for the Collaboration: Engaging Library Workers Across  
Units to Deliver Meaningful Learning Objects**

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## **Introduction**

“They Came for the Carbs, and Stayed for the Collaboration: Engaging Library Workers Across Units to Deliver Meaningful Learning Objects,” refers to a community-building tactic that the University of Michigan Library employed to engage our staff in the management of digital learning objects.

In 2011, library administrators created a term appointment for an Instructional Technologist to further support emerging instructional needs and created the E-Learning Task Force as one of several groups assembled to assess, encourage, and support digital learning object activities. The primary goal for this group was to offer virtual learning opportunities to complement and enhance traditional library instruction. The group sought to identify learning opportunities, and as a result, to create screencasts, videos, tutorials, research guides, quizzes, and other learning objects to address the needs of different levels of learners (graduate/undergraduate, etc.). These learning objects need to be easily locatable within the library website as well as within websites outside of the library’s control, including official course management websites.

Using our group’s experience as a case study, this paper shares how our library harnessed different types of expertise (technical and content-oriented) dispersed throughout different areas of the library to manage meaningful learning objects, in particular screencasts and videos. Drawing on the strategies of our library and several of our peer institutions, we also describe

some challenges and solutions to managing digital learning objects.

## **Our Challenges**

The first challenge we encountered was understanding and defining what we meant by digital learning object. What is a digital learning object? According to Polsani (2003), “a learning object is an independent and self-standing unit of learning content that is predisposed to reuse in multiple instructional contexts.”<sup>1</sup> For our purposes, videos, screencasts, PDFs, quizzes, and even web-based Research Guides - as long as they can be digitally distributed and meet some instructional need - are examples of digital learning objects (DLOs).

Our second challenge was to pick an area of focus from the variety of DLOs as defined in our environment, in order to make progress towards a virtual learning environment. As a result, we scaled our focus to videos and screencasts<sup>2</sup>, a well-known and emerging area of interest and immediate need in the library. Attempts were made to understand and define our local DLO landscape, in terms of videos. Once we understood what DLOs already existed, we solicited feedback from our library colleagues to learn which potential videos would best support the library’s instructional mission if such objects were created and shared with a broad community. Some questions quickly emerged from our exploration, such as:

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<sup>1</sup> Polsani, Pithamber R., “Use and Abuse of Reusable Learning Objects,” *Journal of Digital Information* 3 no.4 (2003), <http://journals.tdl.org/jodi/index.php/jodi/article/view/89>.

<sup>2</sup> The term “video” will be used to represent both videos and screencasts for the rest of this paper.

- Who has appropriate technical expertise within the library?
- Who is making videos?
- Where do the digital files -- both raw footage and final product -- live?
- How do library instructors discover our colleagues' videos for potential re-use in multiple instructional contexts?
- If we spend effort and time on these videos, how will our users find them?
- Who can provide video creation support?
- Who can help videos get discovered?
- Who is maintaining videos to ensure their quality and currency?
- What project management principles can be shared regardless of content? Format?
- Can we provide guidelines to video creators to ensure accessibility for all potential users?
- Can we identify videos that might provide exceptional impact, and is there a way to expedite creation of those items?

Additional challenges surfaced, in particular an undefined production support infrastructure that hindered the development of a cohesive virtual learning environment around videos.

Ideally, this infrastructure would become more visible to accommodate instructional video needs, as well as needs for promotional and marketing videos. And finally, mechanisms to educate and support interested staff across a decentralized organization were missing. Among the mechanisms needed were tools and documentation to help library staff synchronize to the

production support infrastructure, including any best practices we could offer.

## **Our Processes**

With a foundational commitment to collaboration, communication, and coordination, we recognized the need to survey not only our existing landscape, but also our large community's need for DLOs, collaborators, and documentation. Philosophically, we strove for an enhanced spirit of transparency and collaboration.

One of the most obvious barriers to building our virtual learning environment was a lack of defined places (e.g. YouTube, Screencast.com, etc.) to organize, store, and make discoverable our considerable collection of DLOs, as created by individuals across the library. Multiple accounts existed for organizing DLOs, and most library staff did not have awareness of the accounts, clarity about who managed them, nor recommendations about where re-usable DLOs should be hosted, stored, or made publicly available.

Initially, we analyzed the landscape of our environment to identify the DLOs that had been created previously and that had potential for reuse. Our analysis coalesced around four broad categories: Inventory, Workflow, Technology, Communication.

Our **inventory** analysis consisted of an audit of videos, video players or people associated with their creation, location, and storage. Within that audit, we attempted to identify areas of

expertise related to video creation and distribution, while identifying specific staff across the organization with various skills. At the same time, we gathered feedback from library staff involved in instruction as to what specific instructional needs could be addressed by videos. Along the way we learned that we needed to understand the issues around file storage and access for everyone who might need to use a video in its raw format as well as in its finished format. We looked at server log data as one data point to help us understand the use of videos and the challenges surrounding discovery of these objects, many of which were very time-consuming to create. Given the diversity of the organization it is no surprise diverse practices, workflows, and tools exist. We began to wonder if peer libraries were experiencing similar challenges with managing DLOs. To learn more, we created a short survey and distributed it among [Committee on Institutional Cooperation](#) (CIC) institutions (detailed in another section below).

Throughout our inventory or environmental scan of videos, we uncovered many challenges related to our second category for analysis, **workflow**. These challenges typically revolved around who managed tools and distribution paths, who had access to tools and accounts, and who controlled what we distribute publicly, which influenced workflow. Additionally, we discovered a need to select and prioritize collaborative projects to maximize staff time and benefit.

We quickly learned that a core tenet of successful collaborative workflows involved the empowerment of individuals to run independently with ideas that may not scale for likely

re-use (e.g. videos about features in an esoteric subject-specific database). Another tenet was the fostering of collaboration among diverse staff to bring together expertise in content, technology, software, and services for projects prioritizing utility on a large scale across many audiences. Both tenets were enabled by opportunities for staff to share expertise beyond their traditional collaborative partners. We noted that all staff benefitted when, for example, instructional technologists were able to collaborate directly with content experts such as subject librarians. One example of these benefits included the production of guidelines documents written to combine the expertise and points of view of knowledgeable staff. (See appendices.)

Our third area of analysis was **technology**. We attempted to collect or create best and/or current practices given the potpourri of tools available. Questions we considered included: What tools exist for video creators? What storage options were available and optimal for short and long term purposes? What technological support is available for the video life cycle? What technological issues should we consider when trying to make these objects discoverable?

Obvious paths to video creation and file storage were made murky by the ever-evolving campus support mechanisms and commercially available technologies. To help manage and support videos, despite the ambiguous nature of creation and storage processes, we identified available workstations equipped to support video creation and editing, recommended software, and crafted workflows, referral trees, and recommended practices for projects at each step of their life cycle.



Similarly, paths to discover our video offerings for our intended users were complicated by creators' lack of awareness of available distribution options. Because multiple locations for displaying videos existed, we recognized a need for well-defined criteria to help video creators decide where to distribute their finished products. Creators were unaware of locations in our library's web environment where users might visit and expect to find videos, or were unaware that these objects had potential to be featured in certain library web locations managed by different people, groups, or departments. Because controlled accounts limited distribution opportunities, we negotiated paths to video distribution in the library's web environment among various web page gatekeepers and then communicated those paths to individual creators. We pinpointed a common place to host video content (a moderated YouTube account), and established a designated submission process to place content in that account. And we worked with website gatekeepers to increase the visibility of a web page dedicated to featuring current instructional and promotional videos. According to comments from colleagues, these actions increased video discoverability among library staff.

**Communication**, our fourth area of analysis, was at the core of all of our conversations about inventory, workflow, and technology. We realized a need and a desire to create a community of interest to foster collaboration and establish ideal channels of communication across interested staff members and units. This community enabled a culture of pooling expertise in content and technology. Part of this communication work included identifying and promoting designated pathways towards creating, storing, and finding screencasts/videos as well as their

associated native files for re-mixing and re-use. A part of this communication process involved the creation and distribution of documentation that communicated current practices, planning documents, and paths to assistance to benefit that community. (See appendix).

The “coffee and carbs” tactic, referred to in the title of this paper, involved organizing a community-building event where video creators could share ideas about projects while having coffee and snacks. Prior to this tactic, several efforts had been made, both formally and informally, to respond to emerging instructional needs via the creation of videos. Individual library staff members worked independently to make videos to support instructional efforts. These efforts required considerable time, expertise, and sometimes technological resources and support beyond what was readily available via traditional sources. Because these objects were often created by individuals in response to an immediate need, they were not always distributed widely even when they had great potential for re-use. The "coffee and carbs" event brought these individuals together to share how they responded to needs, and they left with ideas of how they might collaborate in the future.

Communication channels were developed via public discussions and presentations, staff meetings, staff newsletters, all-staff surveys, and posted documents on a staff intranet. Through these various communication channels, the group shares practical recommendations and technical help with the campus community of DLO creators. Periodic updates describe DLO projects in development across the library to spark new collaborations and minimize duplication of effort.

## **Our Results**

We realize that we will never have comprehensive “best practices” for our decentralized environment, because our processes are always evolving along with available technology, resources, and our instructional goals. Nevertheless, we have a number of planning and workflow documents, which reflect our current practices and which may have broad utility beyond our local environment.

We identified a need for a planning document (see appendix 1) that could raise questions that video creators typically encounter during the creation process. Because the creation of a video can be time-intensive, building in a project management plan beforehand can save time, offer a consistent approach, and encourage creators to define goals before beginning video production. Elements of our concept template include an indication of “shelf life,” a clearly understood title, target audience, intended learning objectives, and intended location for the video (research guide, digital signage, web page, etc.).

Initially, we created a universal concept template that was intended to be considered for any learning object format. Over time, we recognized the need for concept templates to support different types of learning objects, so we are in the process of developing templates customized for formats such as web page, interactive quiz or tutorial, and PDFs.

We uncovered a need for additional documentation to standardize workflow processes across our organization. So far, our community of interest has developed workflow documentation for closed-captioning (see appendix 2), screencasting (see appendix 3), and embedding videos into our Research Guides (see appendix 4). These workflow documents differed from concept template documents in that they serve to guide the actual creation and distribution of videos after the planning stage. The “Captioning Videos” document explains how creators can make videos accessible to a variety of users, especially those users who might rely on screen reader software. The “Screencast Workflow” document identifies information such as officially supported programs and physical locations where software and hardware is available, and maps out support services local to various campus locations in addition to providing tips for recording, editing and distributing success. The “Embedding Videos in Research Guides” document provides detailed instructions for inserting videos into research guides and re-sizing them for best effect.

And finally we developed a frequently updated “referral tree” document that explained to our community of interest who to contact for specific types of problems or questions related to the DLO lifecycle.

### **What We Learned from Other Institutions**

In late 2012, we surveyed 16 Instruction Librarian Peer Group members at CIC institutions, to learn how they were handling DLO creation and management at their home institutions (see

appendix 5). While our survey sample was too small to provide statistically significant results, we found our local strategies and challenges were not unique in comparison. Most peer institutions are experimenting with DLO creation; no firm model for DLO management has emerged, though some patterns were detected.

The survey was very well received, with twelve responses from thirteen different institutions. (In addition, seven respondents indicated a willingness to participate in a follow-up phone interview, if necessary.) Of the twelve responses, eleven indicated that their institution was engaged in creating DLOs for the library; this summary of responses focuses on those eleven. Of the twelve responses, eleven indicated that their institution was engaged in DLOs for the library; this summary of responses will focus on the eleven responses from institutions engaged in creation. (See Appendix 5).

DLOs are primarily being created for independent self-study, though eight of the eleven respondents indicated they were creating DLOs for mediated instruction. Commenters noted that even the DLOs designed for mediated instruction were made available to the public for self-study. Learning objects were evenly distributed across media types – text-based documents, interactive activities such as quizzes, and audio or video demonstrations. The majority of DLOs used are created by library staff who are not instructional designers, and collaboration was the norm. Examples of collaboration include partnerships between and among library staff, writing/literacy centers, internal library committees, instruction and outreach people, etc. More respondents indicated that DLOs were collaboratively created

“often” or “all of the time” than those who reported “rarely” or “never” regardless of whether the collaboration was generally formal, informal, or mixed at their institution.

Strategies for creating DLOs were more often described as informal, though some institutions have well-developed creation workflows in place, culminating in formal review. Respondents who provided examples of their creation strategies described processes that can be generalized as

- collaborative assessment of needed DLOs, including appropriate formats, often with course instructors or other content specialists;
- storyboard or outline creation, collaboratively at some institutions but not all -- one institution designates a “principal creator” who receives peer feedback and revises as appropriate;
- creation of the DLO itself, generally by a single individual, though one institution reported working on this step in small teams;
- peer feedback and any necessary revisions;
- formal review (at one institution);
- distribution of the DLO to the appropriate platform;
- best practices and design templates created by groups to aid in DLO creation.

The management of DLOs appears to be more varied, and this seems to be more of a “work in progress” for most institutions surveyed. Respondents either specifically identified or implied a split in the management of finished DLOs, which is more established, and management of raw

files and workflows, which is more ad hoc. Some respondents reported that attempts at management of raw files for reuse have not been successful despite creating repositories and processes; that the variety of tools and formats used to create DLOs can exacerbate the problem; and that bottlenecks can arise in centralized oversight processes.

Three respondents provided extended comments about the management of finished DLOs, and two reported that this is overseen by a group charged with the task. At one institution they employ a research intern to do the actual management, and try to write grants to fund maintenance of their most important DLO, which is large and is part of a general education requirement, in order to cover the lack of internal funding for this task; others mentioned this sort of maintenance as “a continual challenge.” One respondent also discussed their successful strategy for management of raw .SWF (Shock Wave) or video files, audio files, storyboards, and transcripts through a two-pronged approach involving both local storage and deposit in the library’s institutional repository.

Finally, when asked about how their DLOs are found by library users, all the respondents reported that users searched the library website and were also directed to DLOs during in-person interactions with library staff. Other methods, such as use of a learning objects portal, course management sites and searching external sites such as Google were also reported, but less frequently. Respondents were also unanimous in identifying word-of-mouth as the most common method for library staff to find out about available DLOs.

## **Conclusion**

We have not yet arrived at a cohesive, virtual learning environment in our library. Collaboration requires time, effort, and the cultivation of community. Supporting collaborative efforts has allowed us to raise awareness of existing tools and services for DLO management among a community of interest. We have received anecdotal feedback from this community supporting the continued opportunities for face-to-face, peer meetings.

In the year and a half that our task force has been approaching DLO management, we have focused on two tasks: defining and documenting production support infrastructure and mechanisms to educate and support interested staff, and coordinating the production of high-demand DLOs.

Through our documentation efforts, initially created to support video and screencast work, we intended to increase DLO production efficiency and willingness to create screencast and video DLOs among our community of interest. Along the way, we realized an opportunity to adapt these documents into documents that supported other forms of DLOs (including text-based resources).

Through our coordination efforts, we have attempted to bring together multiple talents for higher quality DLOs and to provide peer support to encourage independent DLO creation.



We still struggle with ways to provide effective communication for our community of interest.

No existing communication vehicles serve everyone equally well (due to logistical problems of scheduling meetings, e-mail overload), and communications rarely reach potential users at their point of need.

Based on our case study and personal experience, we understand that we need naming conventions that enhance findability of DLOs anywhere (within our library website, external web sites, course management sites, etc.).

Based on our case study and our survey results, we recommend that formal documentation be made for planning, creating, and distributing learning objects effectively and efficiently. We also recommend a culture that fosters collaboration for DLO creation, management, and assessment.

We believe that effective strategies require the input of a broad community, experimentation, and revision, but we also struggle to find a valid way to measure the effectiveness of our efforts. Further work is needed to learn how and whether our efforts to date have been effective in enhancing the efficiency with which DLOs are made as well as their quality. We cannot yet say whether our efforts have led to the production of more or better DLOs. We do, however, feel confident that our existing DLOs are more discoverable since we established consistent paths to distribution.

## Appendices:

[Appendix 1: Concept Template \(video and screencast planning document\)](#)

[Appendix 2: Captioning Videos \(workflow document\)](#)

[Appendix 3: Screencasting Workflow \(workflow guidelines for creating a screencast\)](#)

[Appendix 4: Embedding videos in Research Guides \(workflow document\)](#)

[Appendix 5 : Survey Questions and Responses \(anonymized survey data\)](#)

## References

- <sup>1</sup>. Polsani, Pithamber R. "Use and Abuse of Reusable Learning Objects." *Journal of Digital information* 3 no.4 (2003). <http://journals.tdl.org/jodi/index.php/jodi/article/view/89>